

REMARKS

This amendment is in response to the Office Action mailed Oct. 15, 2007. A Request for Continued Examination (RCE) is filed concurrently herewith. Applicants have carefully considered the Office Action. In response to the Office Action, Applicants amended claims 1, 12 and 22 and canceled claims 4, 6-7, 10-11, and 13-14. Claims 1-3, 5, 8-9, 12 and 15-22 are pending in the present patent application. No new matter has been added. In view of the above amendments and the following remarks, Applicants request further examination and reconsideration of the present patent application.

Claims 1, 12 and 22 have been amended to more clearly recite Applicants' invention. In each claim, the preamble was amended to delete the limitation "medical" and instead recite a method or apparatus for processing *image* data. While the detailed description includes description to a medical image data embodiment, the invention is not intended to be limited to medical image data. Support for this amendment can be found in Applicants' specification at, for example, paragraph [0034].

Claim 22 was objected to as introducing new matter. Claim 22 has been amended to delete the term "specially configured" in order to overcome the Examiner's objection. Withdrawal of the objection is respectfully requested.

The Examiner rejected claim 10 under 35 U.S.C. 112, first and second paragraphs, for failing to comply with the enablement requirement and for being indefinite. Applicants have currently canceled claim 10. Therefore, it is respectfully requested that the rejection of claim 10 under 35 U.S.C. 112 be withdrawn.

The Examiner rejected claims 1-22, under 35 U.S.C. 103(a) as being unpatentable over Li et al (US 6,567,081, hereinafter Li), in view of Dekel et al. (US 2003/0005140, hereinafter Dekel) and further in view of Gu et al. (US 7,006,568, hereinafter Gu).

Applicants respectfully traverse the rejection of claims 1-21 under 35 U.S.C. 103(a) over Li in view of Dekel and further in view of Gu. It is respectfully submitted that the Applicants' invention as amended and recited in independent claims 1, 12 and 22, and claims depending therefrom, is not obvious in view of the applied references, taken individually or in combination. Applicants further submit that the applied references fail to teach or suggest all of the recited

limitations of Applicants' processing of image data as recited in amended independent claims 1, 10 and 12.

In order to establish a prima facie case of obviousness, all elements of the recited invention must be considered. Applicants respectfully submit that the applied references do not teach, suggest, or disclose (either individually or collectively) the independent claims 1, 12, and 22 with regard to performing a differential pulse code modulation transform on the axially transformed representation in a spatial direction. Li merely discloses a method of processing image data using alignment and 3D wavelet transform techniques. Li does not disclose, teach or suggest the use of a differential pulse code modulation to further transform the axially transformed representation in a spatial direction. Dekel merely discloses the use of 3D wavelet transform techniques for medical images. Dekel does not disclose, teach or suggest the use of a differential pulse code modulation to further transform the axially transformed representation in a spatial direction. The Examiner has newly cited Gu, in combination with the Li and Dekel references. The Examiner has noted the motivation for this combination is to "encode these signals with the lowest possible bit rate" (col. 1, lines 50-55). Applicants respectfully submit that the Gu reference does not overcome the deficiencies of Li and Dekel. Gu merely discloses differential pulse code modulation (DFCM), however nowhere does the Gu reference teach or disclose DPCM on a group of axially transformed representations in two axes directions to generate a spatially transformed representation at a lower spatial resolution. Applicants submit that there must be some reasonable basis for combining references.

Applicants' recited invention is focused on taking cross sectional images (slices) along a z-axis of a 3D volume and having a first spatial resolution in the x-and y- axes. The slices having a first axial resolution are transformed with a wavelet transform to generate an axial transformed representation to have a second and lower axial resolution than the first axial resolution. This lower resolution axial transformed representation is then subjected to a DFCM to generate a spatially transformed representation at a second spatial resolution that is lower than the first spatial resolution. Applicants' recited invention includes two types of resolution – "axial" (resolution in the z-axis, i.e. spacing between the slices) and "spatial" (x- and y-axis directions, or orthogonal to the axial direction, i.e. resolution of the slices themselves). See Applicants' specification at, for example, paragraph [004]. The recited invention is advantageous reducing transmission bandwidth and transmission speed. (See Applicants' Background). Therefore, in order for the cited references to be combined there must be some teaching in the respective references to suggest a reasonable basis to combine.

As discussed above with reference to Li and Dekel, Applicant submits no reasonable combination of Li and Dekel would obtain Applicants' recited invention. Nowhere do the Li or Dekel references show or suggest the use of a differential pulse code modulation to further transform the axially transformed representation in a spatial direction. Further, neither reference shows or teaches transforming both the axial and spatial resolution as particularly recited in Applicants' independent claims. The Gu reference does not overcome the deficiencies of the Li and Dekel. The Gu reference merely discloses DFCM to a wavelet transform in the x and y axes, however nowhere does the Gu reference teach performed a DFCM on axially transformed representations to generate a *spatially transformed representation of the axially transformed representation*, nor does the Gu reference teach a first and second *spatial resolution* and further nowhere does Gu teach or suggest a second and lower spatial resolution. This is not taught or suggested in any way by Gu. Therefore Applicants respectfully submit there is no reasonable motivation or suggestion to combine the applied references. Further, since neither the Li nor Dekel nor Gu references teach the recited use of differential pulse code modulation to generate a spatially transformed representation of axially transformed data, no reasonable combination would obtain Applicants' recited invention.

Accordingly, Applicants respectfully submit that the claimed invention, as recited in amended independent claims 1, 12, and 22 defines allowable subject matter over the applied art. Claims 2, 3, 5, 8, 9, and 15-21 depend directly or indirectly from independent claims 1 and 12 respectively. Accordingly, Applicants submit that claims 2, 3, 5, 8, 9, and 15-21 are allowable by dependency. Thus, it is respectfully requested that the rejection of claims 1-3, 5, 8-10, 12, and 15-21 under 35 U.S.C. 103(a) be withdrawn.

In view of the foregoing amendment and for the reasons set out above, Applicants respectfully submit that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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Attachment: RCE